REMARKS

Reconsideration and allowance are respectfully requested in light of the above amendments and the following remarks.

Claims 1-9 have been cancelled in favor of new claims 10-17, which better define the subject matter Applicant regards as the invention. Support for the features recited in claims 10-17 is provided in the original claims and the specification on page 4, lines 16-27.

Claims 1-9 were rejected, under 35 USC §102(b) (sic §102(e)), as being anticipated by Shoki et al. (US 6,087,986). Since Shoki does not qualify as a §102(b) reference, Applicant will treat the rejections as though made under §102(e) and respectfully traverses these rejections to the extent they are deemed applicable to claims 10-17.

Shoki fails to disclose the feature recited in claim 10 of generating a directivity weight coefficient toward an estimated direction of a second communicating party based on a detected null point in a directivity toward a first communicating party.

By contrast to the claimed feature, Shoki discloses extracting a received signal from each of three carrier waves (f1, f2, f3) and supplying the extracted signals to respective adaptive signal processing circuits (see col. 6, lines 61-67). In each adaptive signal processing circuit, the radio

transmission environment is estimated by grasping the directions of a desired wave and a jamming wave, the transmission power, and the delay time (col. 6, line 67, through col. 7, line 4). Using this estimation, an adaptive algorithm is applied so as to calculate the amount of weighting set for each antenna element (col. 7, lines 4-8).

As may be determined from the paraphrased portion of Shoki's specification, Shoki does not disclose generating a directivity weight coefficient for one communication party based on a null point in a directivity toward another communication party. Instead, Shoki generates the weight coefficient using the directivity of a desired wave, the directivity of a jamming wave, a received signal's transmission power, and the received signal's delay time. In brief, Shoki does not employ a detected directivity null point for generating a directivity weight coefficient.

Accordingly, Applicant submits that Shoki does not anticipate the subject matter defined by claim 10. Claim 17 similarly recites the feature distinguishing apparatus claim 10 from Shoki, but with respect to a method. For similar reasons this feature distinguishes claim 10 from Shoki, so too does it distinguish claim 17. Therefore allowance of claims 10 and 17 and all claims dependent therefrom is warranted.

The device defined by claim 11: (1) compares directivities corresponding to a plurality of first communication parties, (2) estimates that a source of interference against a second communication party is present in a direction where a null point forms in one but not another directivity of the first communication parties, and (3) generates a weight coefficient such that a null point forms in the estimated direction. Shoki fails to disclose any of these three features.

Claim 12 also recites a device that compares directivities corresponding to a plurality of first communication parties. Additionally, the device defined by claim 12: (1) estimates that a second communicating party is present in a direction where a null point forms in all compared directivities of the first communicating parties and (2) generates a weight coefficient such that a beam forms in the estimated direction. Shoki does not disclose these features.

The device defined by claim 13: (1) compares a first reception quality, obtained when a directivity toward a first communicating party is in use, and a second reception quality, obtained when the directivity toward the first communicating party is not in use and (2) estimates the direction of a second communicating party based on the comparison of the first and

second reception qualities. Shoki does not disclose these features.

Accordingly, Applicant submits that dependent claims 11-13 recite subject matter that departs even further from Shoki. Therefore, allowance of claims 11-13 and all claims dependent therefrom is warranted for these independent reasons.

To promote a better understanding of the differences between the claimed invention and Shoki's disclosure, Applicant provides the following additional remarks.

Independent claims 10 and 17 recite: (1) estimating the position of a second communicating party, to which a directivity has not been formed yet, from a null point in a directivity toward a first communicating party and (2) forming a directivity toward the estimated position of the second communicating party. In other words, it is a feature of the present invention to estimate an arrival direction and form a directivity with respect to a communicating party, to which the directivity has not been formed yet, from a null point in a directivity that has already been formed. Therefore, even when a signal from a communicating party, to which a directivity has not been formed yet, presents a low reception SIR and a general arrival direction estimation is difficult, the above-noted feature of the present invention makes

it possible to estimate the direction of this communicating party with a high level of accuracy and form the directivity.

By contrast to the present invention, Shoki discloses determining the amount of weighting for a plurality of carrier waves of different frequencies from the transmission environment. More specifically, in the portion of Shoki's specification cited in the Office Action, Shoki discloses that when a plurality of carrier waves are received from a plurality of antenna elements, the transmission environment is estimated from the individual carrier waves and the amount of weighting is determined for each carrier wave using adaptive algorithms (Shoki col. 6, line 60, through col. 7, line 10). In addition, Shoki discloses directing a beam to the direction of a desired wave and forming a null in the direction of a jamming wave (col. 1, lines 6-18).

However, the above-identified portions of Shoki only disclose general directivity formation. Specifically, Shoki discloses estimating an arrival direction by utilizing MUSIC and ESPRIT methods (see Shoki col.7, lines 34-48).

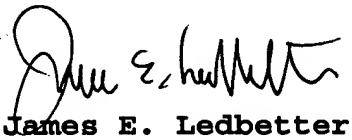
Shoki does not disclose the above-noted feature of the present invention of estimating an arrival direction with respect to a communicating party, to which a directivity has not been formed yet, from a null point in a directivity that has already been formed. Instead, Shoki employs MUSIC and ESPRIT methods and

is unable to carry out arrival direction estimation and directivity formation with respect to a communicating party presenting a low reception SIR. By contrast to Shoki, the present invention makes it possible to form directivity accurately with respect to a communicating party presenting a low reception SIR.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,



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